IN THE CLAIMS:

The status of the claims in the present application is provided herein below. No amendments have been made to the claims in this response.

Claims 1-39. (Cancelled)

40. (Previously added) A method for synthesizing an oligosaccharide comprising the steps of:

(a) combining a glycosyl donor molecule and a glycoside acceptor molecule in a reaction mixture: and

(b) enzymatically coupling the donor molecule to the acceptor molecule using a mutant form of glycosidase enzyme to form the oligosaccharide, said enzyme being selected from among glycoside enzymes having two catalytically active amino acids with carboxylic acid side chains within the active site of the wild-type enzyme, and said mutant enzyme being mutated to replace one of said amino acids having a carboxylic acid side chain with a different amino acid of comparable or smaller size, said different amino acid having a non-carboxylic acid side chain characterized in that, said glycosyl donor molecule having a β configuration and said glycoside acceptor molecule having an α configuration.

41. (Previously added) The method of claim 40, wherein the glycosidase enzyme is a stereochemistry retaining enzyme in which one of the carboxylic acid side chains in the active site functions as an acid/base catalyst and the other carboxylic acid side chain functions as a nucleophile, and wherein the amino acid having the nucleophile carboxylic acid side chain is replaced in the mutant enzyme.

42. (Previously added) The method of claim 41, wherein the enzyme is a β-glycosidase.

43. (Previously added) The method of claim 42, wherein the glycosyl donor molecule is an α-glycosyl fluoride.

44. (Previously added) The method of claim 43, wherein the α-glycosyl fluoride is an α-glucosyl fluoride.

45. (Previously added) The method of claim 43, wherein the α-glycosyl fluoride is a α-galactosyl fluoride.

46. (Previously added) The method of claim 40, wherein the enzyme is a β-glycosidase.

47. (Previously added) The method of claim 40, wherein the enzyme is a β-glucosidase.

48. (Previously added) The method of claim 40, wherein the acceptor molecule is an aryl-glycoside.

49. (Previously added) The method of claim 48, wherein the acceptor molecule is a nitrophenyl-glycoside.

50. (Previously added) The method of claim 40, wherein the glycosidase enzyme is a stereochemistry inverting enzyme in which one of the carboxylic acid side chains in the active site functions as an acid catalyst and the other carboxylic acid side chain functions as a base catalyst, and wherein the amino acid having the carboxylic acid die chain which functions as a base catalyst is replaced in the mutant enzyme.

Claims 51-54. (Withdrawn)

55. (Previously added) The method of claim 40, wherein the glycosidase enzyme is selected from the group consisting of β-glucosidases, β-galactosidases, β-mannosidases, β-N-acetyl glucosaminidases, β-N acetyl galactosaminidases, β-xylosidases, β-fucosidsases, cellulases, xylanases, galactanases, mannanases, hemicellulases, amylases, glucoamylases, α- glucosidases, α-galactosidases, α-mannosidases, α-N-acetyl glucosaminidases, α-N acetyl galactosaminidases, α-xylosidases, α-fucosidsases, and neuraminidases/sialidases.

Claims 56-70. (Withdrawn)